REMARKS

Claim Rejections - 35 U.S.C. § 102

Claims 1-3, 5-9, and 11-13 were rejected under 35 U.S.C. § 102(b) as being anticipated by Song et al. (U.S. 6,121,677) ("Song"). Anticipation requires that each and every element of a claim be found in a single prior art reference. *In re Dillon* 919 F.2d 688, 16 U.S.P.Q. 2d 1897, 1908 (Fed. Cir. 1990) (en banc), cert denied, 500 U.S. 904 (1991).

The present invention generally provides an integrated circuit wafer having fuse circuits and pads used for trimming the output of the integrated circuit. Trimming of integrated circuits is defined in the background portion of the description, which states "[a]fter the circuit manufacturing, various components of the integrated circuit are adjusted, or trimmed, to bring the electrical characteristics within permitted parameters. For example, trimming can be used to adjust resistances or capacitances, to adjust transconductance values, and to correct for DC offsets produced by process variations." (Paragraph 0003). Trimming is accomplished by selectively applying a signal to fuse circuits (i.e., blowing selected fuses). By selectively blowing fuses, the electrical characteristics are brought within permitted parameters. Significant savings in integrated circuit die area is achieved by positioning the fuse circuits adjacent to the scribe lane between integrated circuits and locating fuse pads and power supply pads within the scribe lane. Conductors extend from the fuse circuits within the integrated circuit into the scribe lane to connect the pads to the fuse circuit. When the integrated circuits are severed from the wafer, the pads located within the scribe lane are severed from the integrated circuits.

Song provides an integrated circuit wafer having test pads located in the scribe regions between the integrated circuits. The test pads are used to provide signals to test circuits located in the integrated circuit region. Isolation devices (in one embodiment, fuses) are located between the test pads and the test circuits within the integrated circuit. However, Song does not teach trimming the integrated circuit by selectively applying a signal from the first pad to the fuse circuit through the first conductor. Rather, Song states:

> "The isolation devices 24 may be used to isolate the conductive lines 22 from one another to avoid the conductive lines 22 from shorting together when the scribe regions 100 are removed. For example, the isolation devices 24 may isolate conductive lines 22 from one another so that if cutting of the scribe region 100 causes a short between conductive lines 22, the test circuits are unaffected by the short." (Col. 4, ll. 1-8).

Therefore, the isolation devices or fuses in Song are collectively blown prior to severing the integrated circuits along the scribe lanes in order to prevent the conductive lines, potentially shorted together during the severing process, from affecting the test circuits. Song does not teach that the isolation devices are selectively blown, or that the isolation devices are used to trim electrical characteristics of the integrated circuit.

I. Independent Claim 1

Independent claim 1 has been amended to clarify the differences between Song and the claimed invention. Amended independent claim 1 now recites "... wherein the *integrated circuit is trimmed by selectively* applying a signal from the first pad to the fuse circuit through the first conductor" (emphasis added). Because Song does not teach trimming the integrated circuit by selectively applying a signal from the first pad to the fuse circuit through the first conductor, as discussed above, Song does not teach each and every element of amended independent claim 1, and the rejection of claim 1 should be withdrawn.

II. Independent Claim 7

Independent claim 7 has also been amended to clarify the differences between Song and the claimed invention. Amended independent claim 7 now recites "... a plurality of pads positioned in the scribe lane and connected to the device trimming fuse circuits by conductors for *selectively applying a fuse blowing signal to the device trimming fuse circuits*, so that following singularization of the dice from

the wafer, the pads are disconnected from the device trimming fuse circuits" (emphasis added). For the same reasons discussed above and with respect to independent claim 1, Song does not teach using isolation devices 24 to *trim* integrated circuit 400 and does not teach *selectively* applying a fuse blowing signal to isolation devices 24. Because Song does not teach each and every element of amended independent claim 7, the rejection of claim 7 should be withdrawn

III. Independent Claim 12

Independent claim 12 recites "a plurality of conductors extending across the die edge for connecting the pads and the fuses to *allow trimming of the integrated circuit by selective blowing of the fuses* . . ." (emphasis added). For the same reasons discussed above and with respect to amended independent claims 1 and 7, Song does not teach trimming of integrated circuit 400 by selectively blowing isolation devices 24. Because Song does not teach each and every element of independent claim 12, the rejection of claim 12 should be withdrawn.

IV. Dependent Claims 2-3, 5-6, 8-9, 11 and 13-14

Claims 2-3, 5-6, 8-9, 11 and 13-14 were also rejected as unpatentable over Song. Claims 2-3 and 5-6 depend from amended independent claim 1, claims 8-9 and 11 depend from amended independent claim 7, and claims 13-14 depend from independent claim 12. As such, these claims are allowable with their independent base claims. In addition, it is respectfully submitted that the combinations of features recited in claims 2-3, 5-6, 8-9, 11 and 13-14 are patentable on their own merits, although this does not need to be specifically addressed herein since any claim depending from a patentable independent claim is also patentable. See M.P.E.P. 2143.03, citing In re Fine, 5 U.S.P.Q.2d (BNA) 1596 (Fed. Cir. 1988).

Claim Rejections - 35 U.S.C. § 103

Claims 4, 10, and 22 were rejected as being unpatentable over Song as applied to claims 1 and 7 above, and further in view of Lee (U.S. 4,935,645).

I. Dependent Claims 4 and 10

For the reasons discussed above and with respect to amended independent claim 1 and amended independent claim 7, Song does not teach each and every element of claims 1 and 7. Because claims 4 and 10 depend from amended independent claims 1 and 7 respectively, these claims are allowable with their independent base claims. In addition, it is respectfully submitted that the combinations of features recited in claims 4 and 10 are patentable on their own merits, although this does not need to be specifically addressed herein since any claim depending from a patentable independent claim is also patentable. See M.P.E.P. 2143.03, citing In re Fine, 5U.S.P.Q.2d (BNA) 1596 (Fed. Cir. 1988).

II. Independent Claim 22

The Examiner states that Song discloses the claimed invention of independent claim 22 except for explicitly disclosing a fuse circuit including a fuse and circuitry for sensing whether the fuse is blown. The Examiner relies on Lee to disclose a fuse circuit including a fuse and circuitry for sensing whether the fuse is blown.

Independent claim 22 recites "[a]n integrated circuit die having a plurality of *device trimming fuse circuits* adjacent a die edge and conductors extending from the fuse circuits to the die edge, the conductors providing connection between the fuse circuits and pads which are severed from the die subsequent to *selective* blowing of fuses of the fuse circuits." (emphasis added). As discussed above and with respect to amended independent claims 1 and 7, and independent claim 12, Song does not teach selective blowing of isolation devices 24 for the purpose of device trimming. Because neither Song nor Lee

teaches the selective blowing of fuses for the purpose of device trimming, the references do not teach each and every element of independent claim 22 and the rejection of claim 22 should be withdrawn.

CONCLUSION

Claims 1-14 and 22 are in condition for allowance. Notice to that effect is requested.

Respectfully submitted,

KINNEY & LANGE, P.A.

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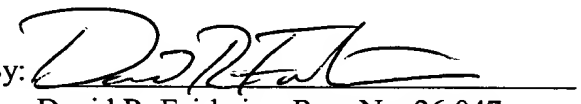
By: 

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